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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/154,966	09/17/1998	CHRISTOPHER HAYWOOD		7857

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ALCATEL INTERNETWORKING SYSTEM, INC.
ALCATEL-INTELLECTUAL PROPERTY DEPARTMENT
3400 W. PLANO PARKWAY, MS LEGL2
PLANO, TX 75075

EXAMINER

NGUYEN, STEVEN H D

ART UNIT	PAPER NUMBER
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2665

25

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/154,966

Applicant(s)

HAYWOOD ET AL.

Examiner

Steven HD Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-13 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claim 14-17 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 14-16 are directed to a system for learning the address of the data packet and the claim lines are adapted to concurrently transmit a claim signal from at least two receive interfaces of the switch controllers to the receive interfaces of the switching controllers and claim 17 is directed to a system for configuring the stall lines to concurrently transmitting stall signals from at least two of the switching controllers receiving data packet to at least two of the plurality of switching controllers transmitting the received data packet.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-17 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-3 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As claim 1, lines 6, recites “the associated switching controller” is vague and indefinite because it does not refer to any previous elements

As claim 1, lines, “the root interface” is vague and indefinite because it does not refer to any previous elements. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Munter (USP 5499239).

Regarding claim 1, Munter discloses (Fig 7-10 and col. 36 to col. 8, lines 35, the data packet is split into the data bus for transmitting to the destination modules) a switch backplane comprising a plurality of switching controllers (Fig 7, Modules) and plurality of packet buses (Fig 7, Ref 80), each of packet buses comprising a root (Fig 7, the modules couple to a root of the packet buses), operable coupled to one of the plurality of switching controllers, for receiving data packet from the associated switching controller and a plurality of leaves for transmitting the data packet received from the root wherein the plurality of leaves are operable coupled to one of the plurality of switching controllers excluding the switch controller coupled to the root interface wherein each of the switching controllers is adapted to concurrently transmitting the data packet to every other switching controller (Fig 7, the modules exchange the packet via the root of the

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packet buses concurrently and the modules have the leaves for transmitting the received data packet from the packet buses; See Fig 8 and col. 8, lines 11-19).

Regarding claim 18, Munter discloses (Fig 7-10 and col. 36 to col. 8, lines 35, the data packet is split into the data bus for transmitting to the destination modules) a switch backplane comprising a plurality of packet buses (Fig 7, Ref 80) and plurality of switching controllers (Fig 7, Modules) connected on the packet buses wherein each switching controllers comprising a transmitting interface packet data on one of packet buses to each of the other switching controllers and a plurality of receive interface for receiving data packet on each packet buses except the one of the plurality of packet buses wherein the switching controllers are adapted to transmit data packet in parallel on their respective ones of the packet buses (Fig 7, each module has a transmitting interface and plurality of receiving interface for receiving the data packet from the other modules excluding the one that transmitting, See multiplexing and demultiplexing of the modules; See Fig 8 and col. 8, lines 11-19).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munter (USP 5499239) in view of admitted prior art.

Munter fails to disclose the claimed invention. However, the admitted prior art discloses a claim line interfacing with a plurality of switch controllers and associated packet bus, wherein a switch controller transmits a claim signal on claim line upon identifying a packet propagated on the packet bus for capturing (Fig 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a teaching of claim line as disclosed in the admitted prior arts into Munter's system. The motivation would have been to improve the throughput of the switch.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munter in view of Shimizu (USP 4866702).

Munter fails to disclose the claimed invention. However, Shimizu discloses (Fig 1-22 and col. 1, lines 25 to col. 13, lines 22) generating a congestion signal if the receiving buffer can not receiving any more packets; a stall line having a root interface with a different one of the switch controller and a plurality of leaves interfacing with a plurality of the switch controllers and switch controller transmits a stall signal from the leaf to root upon identifying a congestion condition on packet bus (See Abstract and Fig 2, Ref 5 is used notifying the source that the destination is not ready to receive the data packet because the buffer is overload).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a congestion buses as disclosed by Shimizu into Munter. The motivation would have been to prevent data loss and improve the throughput of network. Even without Shimizu's teaching, one of ordinary skill in the art would have been recognized a step of generating a congestion signal for transmitting via a bus into Munter because it is well know and expected in the art.

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9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munter in view of Scoot (USP 5953340).

Munter fails to fully disclose the claimed invention. In the same field of endeavor, Scott discloses a switch controller having a protocol domain interface for converting protocol for transmitting/receiving the data packet on the parallel packet buses (col. 7, lines 64 to col. 8, lines 42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a protocol domain as disclosed Scott into Munter. The motivation would have been to interface the different networks. Even without Scott's teaching, one of ordinary skill in the art would have been recognized a step of applying a protocol domain into Munter because it is well know and expected in the art.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munter and Scott in view of Admitted Prior art.

Regarding claim 10, claim 10 is similar to claim 2. Therefore, claim 10 is rejected same rationale as claim 2.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munter and Scott further in view of Shimizu (USP 4866702).

Regarding claim 11, claim 11 is similar to claim 3. Therefore, claim 11 is rejected same rationale as claim 3.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dahod in view of the Admitted Prior art and Shimizu (USP 4866702).

Dahod (Fig 1-20 and col. 2, lines 15 to col. 40, lines 14) a switch backplane (Fig 2) comprising a plurality of switching controllers (Fig 2, Ref 24-N) and plurality of packet buses, (Fig 2, segments), each of packet buses having a root interfacing with a different one of the switch controller and a plurality of leaves interfacing with a plurality of the switch controllers wherein a plurality of switch controllers propagate packet data in parallel from the roots with which the switch controllers interface with leaves (See Fig 2 wherein the ref 24s have a root interfaces for transmitting a packet on the packet buses to the leaves interfaces in parallel). However, Dahoh fails to disclose each receive interface has an address filtering mechanism for recognizing the destination address of packet and capturing the data packet and transmitting a claim signal to the other receive interface. In the same field of endeavor, the admitted prior art disclose a claim line for transmitting the claim signal to the other device (Fig 1) and Shimizu discloses a packet filter for recognizing the destination address of packet (See Abstract and Fig 2, Ref 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a teaching of claim line as disclosed in the admitted prior arts and a packet filter as disclosed by Shimizu into Dahod's system. The motivation would have been to improve the throughput of the switch.

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dahod in view of Shimizu (USP 4866702).

Regarding claim 13, Dahod discloses a switch backplane comprising a plurality of switching controllers (Fig 2, Ref 24-N) and plurality of packet buses, (Fig 2, Ref 32-N), each of packet buses having a root interfacing with a different one of the switch controller and a plurality

of leaves interfacing with a plurality of the switch controllers wherein a plurality of switch controllers propagate packet data in parallel from the roots with which the switch controllers interface with leaves (Fig 2, the links 31 link the switch to the packet buses). However, Dahod does not disclose a method and system for receiving a packet from the buses based on the space of the buffer. However, Shimizu discloses (Fig 1-22 and col. 1, lines 25 to col. 13, lines 22) generating a congestion signal if the receiving buffer can not receiving any more packets; a stall line having a root interface with a different one of the switch controller and a plurality of leaves interfacing with a plurality of the switch controllers and switch controller transmits a stall signal from the leaf to root upon identifying a congestion condition on packet bus (See Abstract and Fig 2, Ref 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a congestion buses as disclosed by Shimizu into Dahod. The motivation would have been to prevent data loss and improve the throughput of network. Even without Shimizu's teaching, one of ordinary skill in the art would have been recognized a step of generating a congestion signal for transmitting via a bus into Dahod because it is well know and expected in the art.

Response to Arguments

14. Applicant's arguments filed 1/27/04 have been fully considered but they are not persuasive.

In response to page 9, the applicant states that the prior arts do not disclose the claimed invention. Dahod discloses a plurality of switching controller coupling with each other via the

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packet buses and the admitted prior art discloses a plurality of switching controllers coupled to a claim line, a stall line and packet line. Therefore, it would have been obvious to one of ordinary skill in the art to apply the teaching of the admitted prior art into Dahod's system in order to improve a throughput of the system because using the separated claim, stall, packet line would have been to increase the throughput of the backplane as set forth in claim 13.

In response to page 9, the applicant states that the prior arts fail to disclose "on each receive interface, capturing the packet for which a destination . . . filtering the . . . a claim signal has not received from another receive interface". In reply, the admitted prior art discloses a claim line for claiming the packet (Fig 1) and Shimizu discloses a packet filter for filtering the packet which is not belong to its address (Fig 2, Ref 7).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hughes (USP 6185222) discloses a switch node comprising a plurality of port modules and plurality of packet buses.

Heitkamp (USP 5422880) discloses a switch node comprising a plurality of port modules and plurality of packet buses.

Gupta (USP 5729546) comprising a plurality of port modules and plurality of packet buses.

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16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (703) 308-8848. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



STEVEN H.D NGUYEN
PRIMARY EXAMINER

4/4/09